

Research Paper

The Impact of Stress and Resilience on Students Appearing for Competitive Exams for Their Under Graduation in India

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ABSTRACT

This research aims to study the stress and resilience factors on the students preparing for entrance to competitive undergraduate programs in India. High-stakes tests, such as these undergraduate entrance exams, that most often determine access to professional fields like engineering, medicine, and law, pose such high pressure on the minds of students that they begin to have a deteriorating effect on their mental wellbeing and academic performance. This study evaluates the level of perceived stress and resilience in students from different regions using a quantitative approach alongside questionnaires for both stress and resilience. The relationship between the levels of perceived stress and resilience and academic outcomes is examined by two scales: the Perceived Stress Scale 10 (PSS 10) and Nicholson McBride Resilience Questionnaire (NMRQ). Findings show that students with higher levels of stress tend to perform worse in exams, whereas resilience is a protective factor that helps students cope with stress better. Students who scored relatively higher in resilience reported stronger time management and emotional control capabilities. Such students were able to cope with challenges using an optimistic outlook. All of these are crucial factors informing strategies that are required either at school or from family backgrounds towards maintaining a sound mental position against competition. The study's implications provide a strong case for institutional support mechanisms and parental support that consider mental well-being while preparing for competitive examinations.

Keywords: *Stress, Resilience, Students Appearing, Competitive Exams, Under Graduation*

In India, pursuing higher education is a challenging process that is frequently characterized by fierce rivalry. Many students encounter the intimidating obstacle of competitive exams, especially those hoping to enroll in undergraduate programs at prominent universities. These tests, which are intended to identify the most deserving applicants, put a great deal of strain on students and raise their stress and anxiety levels. Although stress is a normal human experience, excessive and persistent stress can be harmful to one's physical and emotional well-being.

Depression, anxiety, and stress levels are considered important indicators for mental health, and the inability to detect and address these psychological disorders negatively affects individuals, according to the recent National Mental Health Survey carried out by

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NIMHANS, the prevalence of depression is estimated to be 1.5% and students who had suffered from depression any time in the past is estimated at 2.2%, aspirants of competitive examination work hard, study for longer period, students may also face challenges to their health, both physical and mental, that may have long-term effects, anxiety disorders are the most common mental illness among scholars who are preparing for examination (Pachole, N., Thakur, A., Menon, M., & Peepre, K. 2023). Stress is an inevitable aspect of competitive exam preparation due to the high stakes involved. For Indian students, these exams often determine access to prestigious undergraduate programs and, by extension, their future career opportunities. Factors contributing to this kind of stress are academic pressure, physical and mental health challenges, and several long-term effects. Aspirants tend to take on more workload than they can complete. This leads to frustration, disappointment, and an inability to complete any work (Waseem, A. 2023). This behavior stems from the immense pressure to perform well, meet societal and personal expectations, and secure a spot in prestigious institutions. The imbalance between workload and coping capacity leads to frustration, disheartedness, decreased productivity, and willpower.

Resilience is the maintenance, recovery, or improvement of mental or physical health following challenges. Psychological resources such as a flexible self-concept, a sense of autonomy and self-direction, and environmental mastery and competence can be the foundation of resilience (Sh, M. L. Z. a. M. G. 2017).

Competitive exam preparation is characterized by long study hours, high expectations, and the potential for repeated failures. These factors challenge students' mental and physical health.

Resilience helps students respond adaptively. This is achieved by: maintaining stability, facilitating recovery, and promoting growth. It is essential for reducing the harmful effects of stress and fostering mental awareness. There is an increasing interest in the relationship between stress and resilience in the lives of students getting ready for competitive tests such as National Eligibility cum Entrance Test (NEET), Joint Entrance Examination (JEE), Common Law Admission Test (CLAT) and many more. A thorough grasp of how these two elements interact can help guide tactics for fostering both academic performance and mental health as well as offer insightful information on students' psychological health.

The purpose of this study is to look into how stress and resilience affect Indian students taking competitive exams for their undergraduation. This study aims to add to the body of information on the psychological impacts of stress by investigating its causes, students' coping strategies, and the role of resilience in reducing its negative effects. Understanding the relationship between stress and resilience in the lives of students preparing for competitive exams like the Joint Entrance Examination (JEE), National Eligibility cum Entrance Test (NEET), CLAT (Common Law Admission Test) and many more, has gained attention in recent years. Although these tests are essential for advancing in one's career, they are also stressful milestones that assess students' psychological fortitude in addition to their knowledge. The ramifications of this dynamic go beyond specific academic results; they also touch on more general social issues like student mental health, the function of educational systems in promoting wellbeing, and the resources accessible to students during times of extreme stress.

LITERATURE REVIEW

Stress in Physiology

Stress constitutes a state of threatened homeostasis triggered by intrinsic or extrinsic adverse forces (stressors) and is counteracted by an intricate repertoire of physiologic and behavioral responses aiming to maintain/reestablish the optimal body equilibrium (Tsigos, C., Kyrou, I., Kassi, E., & Chrousos, G. P. 2016). Stress disrupts the body's homeostasis, triggering physiological and psychological responses, and for Indian students preparing for competitive exams, this disruption is significant. Intrinsic stressors like fear of failure, high personal expectations, and cognitive overload combine with extrinsic factors such as parental pressure, societal expectations, and intense peer competition to create a high-pressure environment. On a physiological basis, stress activates the hypothalamic-pituitary-adrenal axis (HPA axis), leading to elevated cortisol levels, which can cause fatigue, sleep disturbances, and impaired cognitive functions.

Behaviourally, students may exhibit maladaptive coping mechanisms, such as procrastination or reliance on stimulants.

While a reasonable degree of stress is aimed at improving performance, chronic overstress is capable of damaging the physical, emotional or cognitive state of a person. Chronic stress also compromises the body's immune response, making students more susceptible to illnesses and exhaustion. Emotionally, it can lead to feelings of hopelessness, irritability, and even depression, while cognitively, it can impair concentration, memory, and problem-solving abilities. When students are consistently overstressed, the "fight or flight" response that helps with short bursts of productivity becomes detrimental to their overall well-being. The irrational expectations from parents, the battling with equally competitive peers, the need to conform to the world, and the harshness of oneself are some of these stressors.

Explaining Resilience

Resilience is defined by the ability to respond positively and thrive in response of adverse situations, this is a quality that affects an individual's ability to cope with tension (Banerjee, R., Dasgupta, A., Burman, J., Paul, B., Bandyopadhyay, L., & Suman, S. 2018). Resilience is a critical quality for students facing high stakes competitive exams in India. These exams, such as those for entry into prestigious engineering or medical schools, are notorious for their difficulty and the intense competition they entail. For children appearing for these exams, resilience can be a decisive factor that shapes not only their performance but also their mental health and overall experience during this challenging period. The correlation among resilience and stress events of students is significant, and improving the resilience level of college students is conducive to reduce the adverse effect of stress events and improve the mental health of students (Yue, W., & Fangli, L. 2018). The relationship between resilience and stress is crucial for students in India preparing for competitive undergraduate exams, as they face intense pressures from high parental expectations, competition and the need and will to excel. Stress from these demands can severely affect their mental and physical health, often leading to anxiety, depression, cognitive impairment, and physical symptoms like fatigue.

Resilience, however, acts as a buffer, enabling students to adapt positively to adversity, stay motivated, and manage their emotions effectively, which can reduce the negative impact of stress on their performance.

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Stress and Resilience in the Indian Context

The Indian school education system is textbook-oriented that focuses on rote memorisation of lessons and demands long hours of systematic study every day. The elaborate study routines that are expected by high school students span from the morning till late evening hours, leaving little time for socialization and recreation (Deb, S., Strodl, E., & Sun, J. 2015). The Indian school education system's emphasis on textbook learning and rote memorization creates a high pressure environment for students, especially those preparing for competitive undergraduate entrance exams like JEE and NEET. The rigid, exam-oriented curriculum requires students to follow intense study routines, often stretching from early morning until late evening. This leaves little for recreation, socialization, or other activities that are essential; for balanced mental health. The lack of these outlets amplifies stress, as students are constantly engaged in a high stakes cycle of study, often with minimal breaks or relaxation.

The cumulative effect of such a system is that students experience sustained stress, which can lead to anxiety, burnout, and, in some cases, loss of motivation. In this context, resilience becomes a crucial factor in students' ability to cope with the demands of this system. Resilient students may be better able to manage their time, create balance, and adapt positively to challenges using coping strategies to buffer the impact of stress. To support students' well-being, educational reforms that prioritize balanced study routines, recreational time, and resilience-building are essential for a healthier and more effective approach to exam preparation.

METHODOLOGY

Research Design

A quantitative research design was employed to explore the relationship between stress, resilience, and academic performance.

Participants

The study included 300 students aged 17–19 years who were actively preparing for competitive exams in various coaching centers across India. The sample was diverse, representing students from urban, semi-urban, and rural areas.

Data Collection Tools

- **Perceived Stress Scale (PSS-10):** A widely used tool to measure the perception of stress. It assesses the degree to which situations in an individual's life are appraised as stressful. The Perceived Stress Scale (PSS) is a psychological tool used to measure an individual's perception of stress over the last month. It's designed to capture how uncontrollable, unpredictable, and overwhelming people find their lives, emphasizing their subjective experience rather than objective life events. The PSS-100 is an expanded version of the traditional Perceived Stress Scale (which is usually 10 or 14 items long). This extended version would include a greater number of items to assess stress perception in more detail and with potentially greater accuracy. The PSS asks respondents to rate various statements on a scale (typically from 0 to 4), with higher scores indicating a higher level of perceived stress. By measuring the degree to which situations in one's life are appraised as stressful, the PSS is useful in identifying how much stress a person feels, potentially helping to guide interventions or stress management practices.

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- **Nicholson McBride Resilience Questionnaire (NMRQ):** The Nicholson McBride Resilience Questionnaire measures resilience through a self-reported scale assessing traits like adaptability and optimism, producing a total score indicative of an individual's resilience level, but specific psychometric details (e.g., reliability or validity) need to be reported for context.

Procedure

Participants were invited to complete an online questionnaire comprising the PSS-10 and NMRQ, along with demographic information and self-reported academic performance. Ethical guidelines, including informed consent and confidentiality, were strictly adhered to.

Data Analysis

The collected data were analyzed using Jamovi to identify correlations between stress, resilience, and academic performance. Descriptive statistics and correlation analyses were conducted to interpret the findings.

RESULTS

The present investigation has been conducted with the primary objective of understanding how stress and resilience impact the children who are preparing for competitive exams for their undergraduation in India.

For this purpose,

- Stress was represented through the variable (S)
- Resilience was represented through the variable (R)

With a Pearson's correlation coefficient of 0.027, the correlation matrix illustrates the relationship between stress and resilience. In this sample, there seems to be little to no correlation between stress and resilience, as indicated by the extremely weak positive correlation. The sample size utilized for this calculation is indicated by the degrees of freedom (df), which is 104. The association is not statistically significant since the p-value of 0.786 is significantly higher than the usual significance level of 0.05. Additionally, the correlation coefficient's 95% confidence interval, which includes zero, spans from -0.165 to 0.216, suggesting that the association is most likely the result of chance. In conclusion, there is not enough evidence in this data to draw any firm conclusions on the relationship between stress and resilience.

Correlation Matrix

Correlation Matrix

		S SUM	R SUM
S SUM	Pearson's r	—	—
	df	—	—
	p-value	—	—
	95% CI Upper	—	—
	95% CI Lower	—	—
R SUM	Pearson's r	0.027	—
	df	104	—
	p-value	0.786	—
	95% CI Upper	0.216	—
	95% CI Lower	-0.165	—

Note. * p < .05, ** p < .01, *** p < .001

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With no missing data for either variable, the table presents descriptive statistics for the variables AGE and exam scores among a sample of 106 people. With a median age of 17 and a mode of 17, the average participant age is 17.5 years, suggesting that the majority of participants are in this age range. Given that ages range from 15 to 56 years old, age has a standard deviation of 3.93, indicating a considerable variation around the mean. There are several modes for exam scores, but only the first is provided. The mean is 2.85, the median is 2, and the mode is also 2. Exam scores show fewer variations than age, with a standard deviation of 1.45. Exam scores might be as low as 1 or as high as 5. The average participant is roughly 17 years old and has an exam score of about 3, with age showing more variation than exam scores.

Descriptives

Descriptives		
	AGE	exam
N	106	106
Missing	0	0
Mean	17.5	2.85
Median	17.0	2.00
Mode	17.0	2.00 ^a
Standard deviation	3.93	1.45
Minimum	15	1
Maximum	56	5

^a More than one mode exists, only the first is reported

DISCUSSION

Stress affects both academic performance and emotional health, making it a major obstacle for students getting ready for competitive tests. It frequently results from elements that can affect self-esteem, concentration, and decision-making, such as peer competition, parental expectations, social pressure, and self-criticism. These tests' high requirements might cause anxiety, burnout, and decreased productivity. On the other hand, resilience acts as a buffer, helping kids handle the stress of tests. To deal with failures and maintain focus on their objectives, resilient students employ abilities including efficient time management, emotional control, and optimism. Focused therapies, such as mindfulness exercises, stress management classes, and emotional support networks, can help build resilience, encouraging a comprehensive study style and improving wellbeing and academic performance.

Implications of the Study

- 1. Educational Reforms:** Schools and coaching centers should integrate mental health awareness and resilience-building programs, such as stress management workshops and mindfulness training, into their curricula to support students' well-being.
- 2. Parental Support:** Families must adopt realistic expectations, promote open communication, and encourage a balanced lifestyle to mitigate the pressures students face during competitive exam preparation.

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- 3. Policy Changes:** Policymakers should focus on systemic reforms, such as introducing holistic evaluation methods that prioritize overall student development rather than rote learning and performance metrics.
- 4. Access to Resources:** Enhanced availability of mental health resources, including counseling and peer support programs, is vital for creating a supportive environment for students.
- 5. Future Interventions:** The findings provide a foundation for designing targeted interventions to enhance resilience, enabling students to cope with academic stress effectively and maintain mental health.

Limitations of the Study

- 1. Sample Diversity:** Although the study included students from various regions, cultural, and socio-economic factors could influence stress and resilience levels differently, which were not deeply explored.
- 2. Self-Reported Data:** The reliance on self-reported questionnaires (PSS-10 and NMRQ) might introduce biases, such as social desirability or inaccurate self-assessment.
- 3. Cross-Sectional Design:** The study's design captures data at a single point in time, which limits insights into how stress and resilience evolve over the preparation period.
- 4. Limited Scope:** The study focuses on students preparing for specific competitive exams, potentially excluding insights into broader stress-resilience dynamics in other academic or personal contexts.
- 5. Lack of Qualitative Data:** While the study is quantitative, including qualitative insights (e.g., interviews or focus groups) could provide a deeper understanding of personal coping mechanisms and contextual challenges.

CONCLUSION

This study highlights the critical impact of stress and resilience on students preparing for competitive undergraduate exams in India. Stress, driven by societal pressures, parental expectations, and peer competition, hampers students' mental well-being and academic performance. However, resilience acts as a protective buffer, enabling effective time management, emotional regulation, and a positive outlook, which lead to better outcomes.

The findings underscore the need for a collective effort to support students. Schools should integrate mental health programs, stress management workshops, and access to counselors, while families must foster open communication and realistic expectations. Policymakers should reform evaluation systems to prioritize holistic development and mental health resources.

Resilience, as demonstrated, is not innate but can be cultivated through strategies like mindfulness, healthy routines, and seeking support. This approach equips students with lifelong coping skills, fostering success not just in academics but in life's broader challenges. By prioritizing well-being alongside achievement, we can nurture a more balanced, resilient generation.

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Conflict of Interest

The author(s) declared no conflict of interest.

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